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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,802	02/11/2002	Thord Agne Gustaf Nilson	01597/LH	7135

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EXAMINER

AGUIRRECHEA, JAYDI A

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/973,802

Applicant(s)

TANEICHI ET AL.

Examiner

Jaydi A. Aguirrechea

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, it appears that the figures do not show the case of claim 2 wherein a reinforcement disc is located between every two adjacent magnet discs must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
3. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation "that between at least every second magnet disc (21) and /or between one magnet disc (21) and said clamping device (24-26,28)" is vague and indefinite. It is not clear whether the case of a reinforcement disc between at least every second magnet disc is by default necessarily true of the case of the reinforcement disc between one magnet disc. If so,

then the phrases are redundant. It is not clear if a reinforcement disc between every second magnet disc means that there are two magnet discs immediately adjacent one another. However, based on the drawings, it is assumed that a reinforcement disc is located – between every adjacent magnet disc.

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (JP 09043418) in view of Nilson et al. (US 5,448,123).

Miura et al. teaches a rotor for a permanent magnet motor comprising: a central spindle 1, a plurality of magnet discs 2 stacked on the spindle, and a reinforcement disc 3 of a non-magnetic high-strength material between every second magnet disc. However, Miura et al. do not show the spindle having a clamping device for exerting an axial clamping force on the magnet discs, thereby forming an axially pre-tensioned disc packet.

Nilson et al. teach a spindle 20 having a clamping device 26 for exerting an axial clamping force on the magnet discs 21, thereby forming an axially pre-tensioned disc packet to obtain the highest possible pretension of the magnetic core.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Miura et al. and provide a spindle 20 having a clamping device 26 for exerting an axial clamping force on the magnet discs 21, thereby forming an axially

pre-tensioned disc packet, as taught by Nilson et al., for the purpose of obtaining the highest possible pretension of the magnetic core.

Regarding the functional language of the clamping device frictionally engaging the reinforcement discs and the magnet discs for transferring centrifugal forces from the magnet discs to the reinforcement discs, thereby relieving the magnet discs of tensile stress, the combination of Miura et al. and Nilson et al. would fulfill this function since the clamping means of Nilson et al. would also clamp the reinforcement discs of Miura et al.

8. With regards to claim 2, Miura et al. discloses a reinforcement disc that is located between every adjacent magnet discs.

9. With regards to claim 3, Nilson discloses a rotor wherein each one of magnet discs comprises at least one electrically insulating layer to obtain electrical insulation between magnetic discs. Therefore, it would have been obvious to form the magnetic discs of Miura having an electrically insulating layer, as taught by Nilson, for the purpose of obtaining electrical insulation between magnetic discs.

10. With regards to claim 4, Miura et al. disclose a rotor wherein said reinforcement discs are flat in shape.

11. With regards to claim 5, Miura et al. disclose a rotor wherein said reinforcement discs consists of a high-strength metal.

12. With regards to claim 6, Miura et al. as modified by Nielson et al., disclose substantially the claimed invention except for the use of ceramic material on the reinforcement discs. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the disc of ceramic material, since it has been held to be within the general skill of a

worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Allowable Subject Matter***

13. Claims 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: In a rotor for a high speed permanent magnet, the prior art does not teach or suggest the magnet discs being radially pre-tensioned by a pre-assembly heat treatment of the reinforcement discs, wherein the thermal coefficient of expansion for the material of the reinforcement discs is higher than that of the material of the magnet discs, and the heat treatment comprises a heating-up of the complete rotor assembly before applying the axial- clamping force.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 703-305-2277. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the


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organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
Jaydi A. Aguirrechea  
May 20, 2002

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800